Abstract

The numerical investigation of 2D bubbling fluidized bed aims the distributions of particle velocity and particle volume fraction at a fixed bed height. Also, it includes the comparison of different drag models results.

Problem Statement

Perform the computational analysis in a multiphase solver *twoPhaseEulerFoam* with *Johnson-Jackson* slip boundary condition. Keep the initial bed height at 0.2 m.

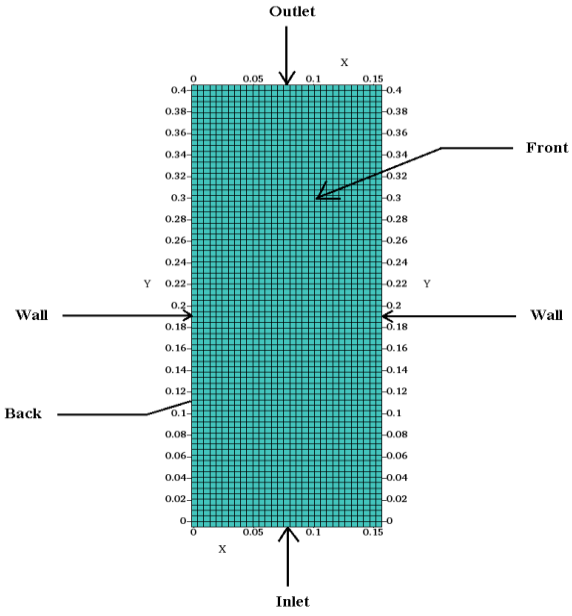

Fig.1. 2D geometry with mesh

Solid properties and initial parameters:

Dimensions = 0.4 m × 0.155 m (× 0.02 m)

ρ = 2500 kg/m^3

d_p = 530 microns

Φ = 0.6

e = 0.99

V_{air} = 0.587 m/sec

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